

WHAT IS CLAIMED IS:

1. A mold for an optical scale, which has fixed and movable platens and is used to mold an optical scale,
wherein both a first mold portion for forming a
5 shaft mount hole for the optical scale and a second mold portion for forming a slit portion of the optical scale are arranged in one of said fixed and movable platens.
- 10 2. The mold according to claim 1, wherein the optical scale is used for an encoder for optically detecting a position or speed of a moving object.
3. The mold according to claim 1, wherein said first
15 mold portion is fitted in a fitting hole formed in said second mold portion.
4. The mold according to claim 1, wherein said first
and second mold portions are integrally formed.
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5. The mold according to claim 1, wherein the optical scale has a wavefront splitting function.
6. The mold according to claim 1, wherein the
25 optical scale has a V-groove structure.
7. An optical scale characterized by being

manufactured by the mold defined in claim 1.

8. The optical scale according to claim 7, wherein the optical scale has a wavefront splitting function

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9. The optical scale according to claim 7, wherein the optical scale has a V-groove structure.

10. An optical encoder comprising light radiation means and light-receiving means opposing said light radiation means, wherein the optical scale defined in claim 7 is disposed between said light radiation means and said light-receiving means.

15 11. An optical encoder in which a light beam from light radiation means is incident on an optical scale, the light beam is reflected by a mirror or optical element to be returned to the optical scale, and the light beam is received by light-receiving means through
20 a grating portion of the optical scale, thereby optically detecting a position or speed of a moving object, wherein the optical scale defined in claim 7 is used as the optical scale.

25 12. An optical scale having a reflecting portion for reflecting light emitted from a light-emitting portion of a sensor having the light-emitting portion and a

light-receiving portion and returning the light to the light-receiving portion,

wherein a shaft holding portion of the optical scale which holds a shaft for rotating the optical scale and the reflecting portion are integrally molded by using a resin, and said shaft holding portion and said reflecting portion are formed on a single surface of the optical scale.

10 13. The scale according to claim 12, wherein said shaft holding portion has a closed-end concave portion fitted on the shaft for rotating said optical scale, and a gate for a resin material is disposed in the closed-end concave portion.

15 14. The scale according to claim 12, wherein said shaft holding portion has a convex portion to be fitted to the shaft for rotating said optical scale, and a gate for a resin material is disposed at the convex
20 portion.

15. The scale according to claim 12, wherein said shaft holding portion is coupled to a bearing inner ring portion for rotatably holding said optical scale.

25 16. An optical encoder using said optical scale defined in claim 12, wherein said sensor is disposed on

the same holding member as that for said bearing for
rotatably supporting said optical scale.